

**Low-temperature synthesis of carbon nanotubes using metal catalyst layer for decomposing carbon source gas****Patent number:** EP1061043**Also published as:****Publication date:** 2000-12-20

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A low-temperature synthesis method of carbon nanotubes using a metal catalyst layer. In the synthesis method, a metal catalyst layer is formed over a substrate. The metal catalyst layer is etched to form isolated nano-sized catalytic metal particles. Then, carbon nanotubes vertically aligned over the substrate are grown from every isolated nano-sized catalytic metal particle through thermal chemical vapor deposition, by decomposing a carbon source gas at a temperature equal to or lower than the strain temperature of the substrate using a carbon source gas decomposing metal catalyst layer.

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